

Small and Large Wind Ordinance

Passed July 6, 2009

Section 201 Definitions:

Wind Energy Conversion System (WECS). The equipment that converts and then stores or transfers energy from the wind into usable forms of energy and includes any base, blade, foundation, generator, nacelle, rotor, wind tower, transformer, turbine, vane, wind farm collection system, wire, or other component used in the system.

Large Wind System (LWS). A WECS that has a nameplate capacity (manufacturer's rating) of more than 100 kilowatts per wind tower, or a total height of more than 140', or a swept area of more than 40'. Any more than one (1) LWS shall be considered a Wind Farm.

Micro Wind System (MWS). A building-mounted WECS that has a nameplate capacity (manufacturer's rating) of 10 kilowatts or less, and projects no more than 15' above the highest point of the roof.

Small Wind System (SWS). A WECS that has a nameplate capacity (manufacturer's rating) less than or equal to 100 kilowatts per wind tower, and a total height of 140' or less, and a swept area of 40' or less.

Swept area. The diameter of the least circle encompassing all blades for a WECS.

Total height. Means the distance from the rotor blade at its highest point to the top surface of the WECS foundation.

Table A

	AG	RR	R1	B1	B4	AB	I1	I2	Buffer	Parking
17. Wind Farm	S	X	X	X	X	X	X	X	B	C
18. Large Wind System	S	X	X	X	X	S	S	S	B	C
19. Small or Micro Wind System	P	P	P	P	P	P	P	P	A	C
20. Temporary Meteorological Towers (Met Towers)	P	S	S	S	S	P	P	P	A	C

P: Permitted

S: Special Exception

X: Prohibited

Section 307 General Provisions and Exceptions to Height Regulations

F. Wind Energy Conversion Systems (as defined)

Development Standards:

522. WIND ENERGY CONVERSION SYSTEM FARM STANDARDS

522.01 DESIGN AND INSTALLATION (General)

A. Design Safety Certification

1. Wind Energy Conversion System (WECSs) shall conform to applicable industry standards. Applicant shall submit certificate(s) of design compliance that wind turbine manufacturers have obtained from Underwriters Laboratories, Det Norske Veritas, Germanischer Lloyd Wind Energie, or an equivalent third party.
2. Following the granting of siting approval under this Ordinance, a Professional Engineer shall certify, as part of the building permit application that the foundation and tower design of the WECS is within accepted professional standards, given local soil and climate conditions.
3. All WECS must be installed in compliance to the manufacture's installation manual or by a professional.

B. Controls and Brakes

All WECS shall be equipped with a redundant braking system. This includes both aerodynamic over speed controls (including variable pitch, tip, and other similar systems) and mechanical brakes. Mechanical brakes shall be operated in a fail-safe mode. Stall regulation shall not be considered a sufficient braking system for over speed protection.

C. Electrical Components

1. All electrical components of the WECS shall conform to applicable local, state, and national codes, and relevant national and international standards.

2. Electrical Collection Cables

All WECS electrical collection cables between each WECS shall be located underground unless they are located on public or utility rights-of-way or with prior County approval. All transmission lines that are buried should be at a depth consistent with or greater than local utility and telecommunication underground lines standards or as negotiated with the land owner or the land owner's designate until the same reach the property line or a substation adjacent to the property line.

3. All damages to waterways, drainage ditches, field tiles, or any other infrastructures caused by the construction or maintenance of the WECS must be completely repaired to near original condition, so as not to

impede the natural flow of water. All trenches must be 5 1/2 ft deep and must remain open until all inspections have been approved.

D. Color

1. Towers and blades shall be painted white or gray or another non-reflective, unobtrusive color.
2. The Applicant for the WECS shall comply with all applicable FAA requirements.

E. Warnings

1. A reasonably visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and Substations.
2. Visible, reflective, colored objects, such as flags, reflectors, or tape shall be placed on the anchor points of guy wires and along the guy wires up to a height of not less than 15 feet from the ground.

F. Climb Prevention

All WECS Tower designs must include features to deter climbing or be protected by anti-climbing devices such as:

1. Anti-climbing devices 15 feet vertically from the base of the WECS Tower
2. Locked WECS Tower Door
3. if climbing apparatus is located on the exterior of tower a 6' fence or other anti-climbing devices must be erected unless climbing apparatus is located at least 12' above the ground level.

H. Utility Interconnection

No WECS shall be installed until evidence has been given that the utility company has been informed of the customer's intent to install an interconnected generator.

The WECS, if interconnected to a utility system, shall meet the requirements for interconnection and operate as set forth in the electrical utility's then-current service regulations applicable to WECS.

I. Waste Management

All solid waste whether generated from supplies, equipment, parts, packaging, or operation or maintenance of the facility, including old parts and equipment, shall be removed from the site in a timely manner consistent with industry standards. All HAZARDOUS WASTE generated by the operation and maintenance of the facility, including but not limited to lubricating materials, shall be handled in a manner consistent with all local, state and federal rules and regulations.

J. Lighting

1. Except with respect to lighting required by the FAA all lighting shall be shielded so that no glare extends substantially beyond the boundaries of the Wind farm Facilities.
2. Any WECS thereof declared to be unsafe by the Zoning Administrator by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster, damage or abandonment is hereby declared to be a public nuisance and shall be abated by repair, rehabilitation, demolition or removal in accordance with the procedures set forth in the County Ordinances governing the removal of Nuisances.

K. Compliance with Additional Regulations:

Nothing in this Ordinance is intended to preempt other applicable state and federal laws and regulations.

L. Interference

If, after construction of the WECS, the Owner or Operator receives a written complaint related to interference with local broadcast residential television, telecommunication, communication or microwave transmissions, the Owner or Operator shall take reasonable steps to respond to minimize the complaint.

M. Signs

All signs, other than the manufacturer's or installer's identification, appropriate warning signs, or owner identification on a wind generator, tower, building, or other structure associated with a WECS shall be prohibited.

N. Temporary Meteorological Towers (Met Towers)

1. The minimum separation distance between a Met Tower and all surrounding property lines, overhead utility or transmission lines, other electrical substations, neighboring meteorological towers, public right-of-ways and primary communications towers shall be no less than the total height of the Met Tower. This is measured from the base of each Met Tower.

522.02 LARGE WIND SYSTEM (LWS) and WIND FARM (WF)

A. Noise and Vibration

With the approval of the LWS or WF project the Board of Zoning Appeals will approve the proposed decibel level for the LWS. The decimals may not exceed 75 dBA at 200 ft.

B. Blade Clearance

The minimum distance between the ground and any protruding blade(s) utilized on a LWS shall be thirty (30) feet, as measured at the lowest point of the arc of the blades. The minimum distance shall be increased as necessary to provide for vehicle clearance in locations where over-sized vehicles might travel.

C. Setbacks:

1. LWS or WF shall not be constructed in any setback, dedicated public easement or dedicated public right-of-way without prior written authorization from the controlling authority.
2. Installation may not be nearer than three hundred fifty (350) feet or 1.1 times the height of the LWS, whichever is greatest, to any property lines, dedicated roadway, railroad right-of-way or overhead electrical transmission or distribution lines. Distance shall be measured from the center of the foundation at the base of the LWS. New structures built adjacent to LWS shall maintain these same minimum setback requirements if located on a neighboring property. Participating landowners within the area comprising the LWS or WF may waive property line setbacks with written approval from all landowners sharing such property line.
3. Except as provided herein the setback distance for LWS shall be setback 1,000 feet or more from any existing or occupied dwellings, except for dwellings located on property(s) that have been leased for LWS provided there is written consent of the owner. LWS must also be located 1000 ft or more from the boundary(s) which as of the date of approval is in a platted subdivision. Distance shall be measured at the time of application for building permit from the center of the foundation at the base of the LWS. A LWS with a capacity of 1.0 MW or less may be placed as near as 600 feet from an occupied residence with the prior written approval of the owner. The setback distance will be followed except in specific instances allowed by the Board of Zoning Appeals.
4. The setback distance for the LWS will be 1500 feet from any platted community under the zoning jurisdiction of a municipality. Distance shall be measured from the center of the foundation at the base of the LWS to the closest Corporate Limit boundary line.

D. Use of Roads and Services

An Applicant, Owner, or Operator proposing to use any county road(s), for the purpose of transporting LWS or Substation parts and/or equipment for construction, operation, or maintenance of the LWS, WF(s) or Substation(s), shall prior to construction:

1. Identify all such public roads and services;
 - a. Roads
 1. Any proposed routes that will be used for construction and maintenance purposes shall be identified. If the route includes a public road, it must be approved by the Cass

County Highway Superintendent. The Superintendent shall conduct a pre-construction baseline survey to determine existing road conditions for assessing potential future damage.

2. All roads used for LWS or WF construction must be maintained at a minimum standard, which will be determined by the Cass County Highway Superintendent.

3. Any road damage caused by the construction of the LWS or WF project equipment, the installation of same, or the removal of same, must be repaired to the satisfaction of the Cass County Highway Superintendent. The Superintendent may choose to require either remediation of road repair upon completion of the project or are authorized to collect fees for oversized load permits. Further, a corporate performance bond or letter of credit in an amount to be fixed by a Professional Engineer may be required by the Superintendent to insure the county that future repairs are completed to the satisfaction of the unit of local government. The cost of bonding and professional engineer determination is to be paid by the applicant. If at some point after construction roads are being used to bring in equipment for repairs any additional damages to the road(s) will be repaired to the satisfaction of the Cass County Highway Superintendent

4. Newly constructed WECS access roads may not impede the flow of water.

b. Dust Control

Reasonable dust control measures will be required by the County during construction of the LWS or WF.

c. Sewer and Water

Any facility shall comply with existing septic and well regulation as required by the Cass County Health Department and the State of Indiana Department of Public Health.

d. Drainage Repair

All damages to waterways, drainage ditches, field tiles, or any other infrastructures caused by the construction or maintenance of the LWS or WF, must be completely repaired to near original condition, and so as not to impede the natural flow of water.

All repairs must be completed within a reasonable amount of time.

E. Operation

1. Maintenance / Inspection

a. The Owner or Operator of the LWS or WF must submit, on an annual basis, a summary of the operation and maintenance reports to the County Commissioners. In addition to the above annual summary, the Owner or Operator must furnish such operation and maintenance reports as the County Commissioners reasonably requests.

b. Any physical modification to the LWS that alters the mechanical load, mechanical load path, or major electrical components shall require re-certification. Like-kind replacements shall not require re-certification. Prior to making any physical modification (other than a like-kind replacement), the owner or operator shall confer with the Zoning Administrator to determine whether the physical modification requires re-certification.

c. The Zoning Administrator, along with licensed 3rd party professionals retained by the County for the specific purpose of conducting inspections of the LWS(s) shall have the right, at any reasonable time and with sufficient prior notice, to accompany the owner or operator, or his agent, on the premises where a LWS has been constructed, to inspect all parts of said LWS installation and to require that repairs or alterations be made. The owner or operator of a LWS or WF may retain a licensed 3rd party professional engineer familiar with LWS(s) to prepare and submit to the Zoning Administrator a written report which addresses the repairs or alterations requested, and which suggests alternate methods for addressing the concerns or provides evidence that said repairs or alterations are unnecessary, within thirty (30) days after receiving notice from the Zoning Administrator that repairs or alterations are requested, or within a longer period of time mutually acceptable to both parties. The Zoning Administrator will consider any such written report and determine whether the repairs or alterations should be made as originally requested or as suggested in the written report. In the event of a dispute between the Zoning Administrator and the owner or operator, or a 3rd party professional engineer retained by them, as to the repairs or alterations which are required, the decision of the Zoning Administrator shall be final.

d. Inspections, at a fee to be determined from time to time by the County Commissioners and paid by the applicant, may be made by a qualified inspector for equipment of this type selected by the Cass County Planning Department, no more than once annually to certify the safety and maintenance of the LWS(s) and accessory structures.

2.. Coordination with Local Fire Department

- a. The Applicant, Owner or Operator shall submit to the local fire department a copy of the site plan.
- b. Upon request by the local fire department, the Owner or Operator shall cooperate with the local fire department to develop the fire department's emergency response plan.
- c. Nothing in this section shall alleviate the need to comply with all other applicable fire laws and regulations.

3. Materials Handling, Storage and Disposal

- a. All solid wastes related to the construction, operation and maintenance of the LWS or WF shall be removed from the site promptly and disposed of in accordance with all federal, state and local laws.
- b. All hazardous materials or waste related to the construction, operation and maintenance of the LWS or WF shall be handled, stored, transported and disposed of in accordance with all applicable local, state and federal laws.

F. Liability Insurance

The Owner or Operator of the LWS or WF shall maintain a current general liability policy covering bodily injury and property damage and name Cass County as an additional insured with limits of at least \$2 million per occurrence and \$5 million in the aggregate with a deductible of no more than \$5 thousand.

G. Decommissioning Plan

Prior to receiving siting approval under this Ordinance, the County and the Applicant, Owner, and/or Operator must formulate a Decommissioning Plan to ensure that the LWS or WF Project is properly decommissioned. The Decommissioning Plan shall include:

1. Assurance that the facilities are properly decommissioned upon the end of the project life or facility abandonment. Applicant's obligations with respect to decommissioning shall include removal of all physical material pertaining to the project improvements to a depth of 48" beneath the soil surface, and restoration of the area occupied by the project improvements to as near as practicable to the same condition that existed immediately before construction of such improvements. Prior to issuance of a building permit, the Applicant shall provide a contractor cost estimate for demolition and removal of the LWS(s) and will provide financial assurance in an amount at least equal to said demolition and removal contractor cost estimate, through the use of a bond, letter of credit or other security acceptable to the County Commissioners, for the cost of decommissioning each LWS to be constructed under that building permit, which security shall be released when such LWS is properly decommissioned as determined by the Zoning Administrator. In the

event of abandonment by the owner or operator, the Applicant will provide an affidavit to the Zoning Administrator representing that all easements for wind turbines shall contain terms that provide financial assurance, including access to the salvage value of the equipment, for the property owners to ensure that facilities are properly decommissioned within twelve (12) months of expiration or earlier termination of the project.

2. The Applicant's, Owner's, or Operator's failure to materially comply with any of the above provisions shall constitute a default under this Ordinance.

3. Prior to implementation of the existing County procedures for the resolution of such default(s), the appropriate County body shall first provide written notice to the Owner and Operator, setting forth the alleged default(s). Such written notice shall provide the Owner and Operator a reasonable time period, not to exceed 60 days, for good faith negotiations to resolve the alleged default(s).

4. If the County determines in its discretion, that the parties cannot resolve the alleged default(s) within the good faith negotiation period, the existing County ordinance provisions addressing the resolution of such default(s) shall govern.

522.03 Small (SWS) or Micro (MWS) Wind System

A. Noise and Vibration

SWS and MWS shall not exceed 60 dBA, as measured at the closest neighboring dwelling.

B. Blade Clearance

The minimum distance between the ground and any protruding blade(s) utilized on a SWS shall be fifteen (15) feet, as measured at the lowest point of the arc of the blades. The minimum distance shall be increased as necessary to provide for vehicle clearance in locations where over-sized vehicles might travel.

C. Tower Height

1. SWS that are 65ft or less are permitted in all zoning district. Tower heights 65ft to 140ft must received special exception if located within a RR, R1, B1, or B4 district.

2. For property sizes between ½ and 1 acre the SMW height shall be limited to 80ft. For property sizes of 1 acre or more, towers should be 140ft or less, except as imposed by FAA regulations.

D. Setbacks

1. The minimum separation distance between a SMS and all surrounding property lines, overhead utility or transmission lines, other electrical

substations, neighboring WECS or neighboring meteorological towers, public right-of-ways and primary communications towers shall be no less than the total height of the SWS. This is measured from the base of each SWS.

E. System Condition

The applicant shall maintain the SWS or MWS in good condition. Maintenance shall include, but not be limited to, painting, structural repairs, and security measures.

F. Decommissioning Plan

Any SWS or MWS which has reached the end of its useful life or has been abandoned shall be removed. A SWS or MWS shall be considered abandoned when it fails to operate for one year. Upon a Notice of Abandonment issued by the Zoning Administrator, the SWS or MWS owner will have 30 days to provide sufficient evidence that the system has not been abandoned. If the SWS or MWS tower is considered abandoned or in disrepair the petitioner must remove the SWS or MWS within 12 month or the county shall have the authority to enter the owner's property and remove the system at the owner's expense.